WAGO 221-415

WAGO 221-415 Lever-Nuts Compact Connectors User Manual

Model: 221-415 | Brand: WAGO

1. Product Overview

The WAGO 221-415 Lever-Nuts Compact Connectors are designed to simplify electrical installations by providing a fast, easy, and safe way to connect various conductor types. These connectors are significantly smaller than previous models, allowing for use in confined spaces. They are suitable for solid, stranded, and fine-stranded copper wires.

Figure 1: Packaging of WAGO 221-415 Lever-Nuts 5 Conductor Compact Connectors. The image shows a clear plastic bag containing multiple WAGO 221-415 compact connectors and an instruction card.

2. Key Features

- **Versatile Connectivity:** Connects any combination of solid, stranded, and flexible copper wires.
- **Compact Design:** Minimizes space consumption in junction boxes by up to 40% compared to the WAGO 222 Series.
- **Visual Inspection:** Transparent housing allows for visual inspection of proper strip length and complete wire insertion.
- **Easy Operation:** Features familiar orange levers for comfortable operation with lower operating forces.
- **Wide Conductor Range:** Accommodates fine-stranded conductors from 0.14 to 4 mm² (AWG 28-14) and

solid/stranded conductors from 0.2 to 4 mm² (AWG 28-14).

- **Secure Connection:** Provides a gas-tight contact point for a durable and secure connection.
- **Enhanced Safety:** Completely closed housing covers all live parts, offering high protection against accidental contact.
- **Test Slots:** Two easily accessible test slots (one in the conductor entry direction and one opposite) facilitate testing, even when installed.

3. Setup and Installation

Follow these steps for proper installation of the WAGO 221-415 Compact Connectors:

1. **Strip Conductor:** Strip the conductor to 11 mm (0.43 inches). Refer to the strip length guide on the side of the connector for accuracy.
2. **Open Lever:** Lift the orange operating lever to open the clamping unit.
3. **Insert Conductor:** Insert the stripped conductor fully into the open clamping unit.
4. **Close Lever:** Lower the lever completely to close the clamping unit and secure the wire. Ensure the lever is fully closed for a secure connection.

Figure 2: Detailed instruction card for WAGO 221 Series Lever-Nuts. This image illustrates the three key steps: stripping the conductor, lifting the lever to open the clamping unit and inserting the wire, and finally lowering the lever to close the clamping unit.

Figure 3: Close-up view of a WAGO 221-415 connector with a wire. A stripped copper wire is shown securely inserted into the transparent connector, with the orange lever in the closed position, indicating a proper connection.

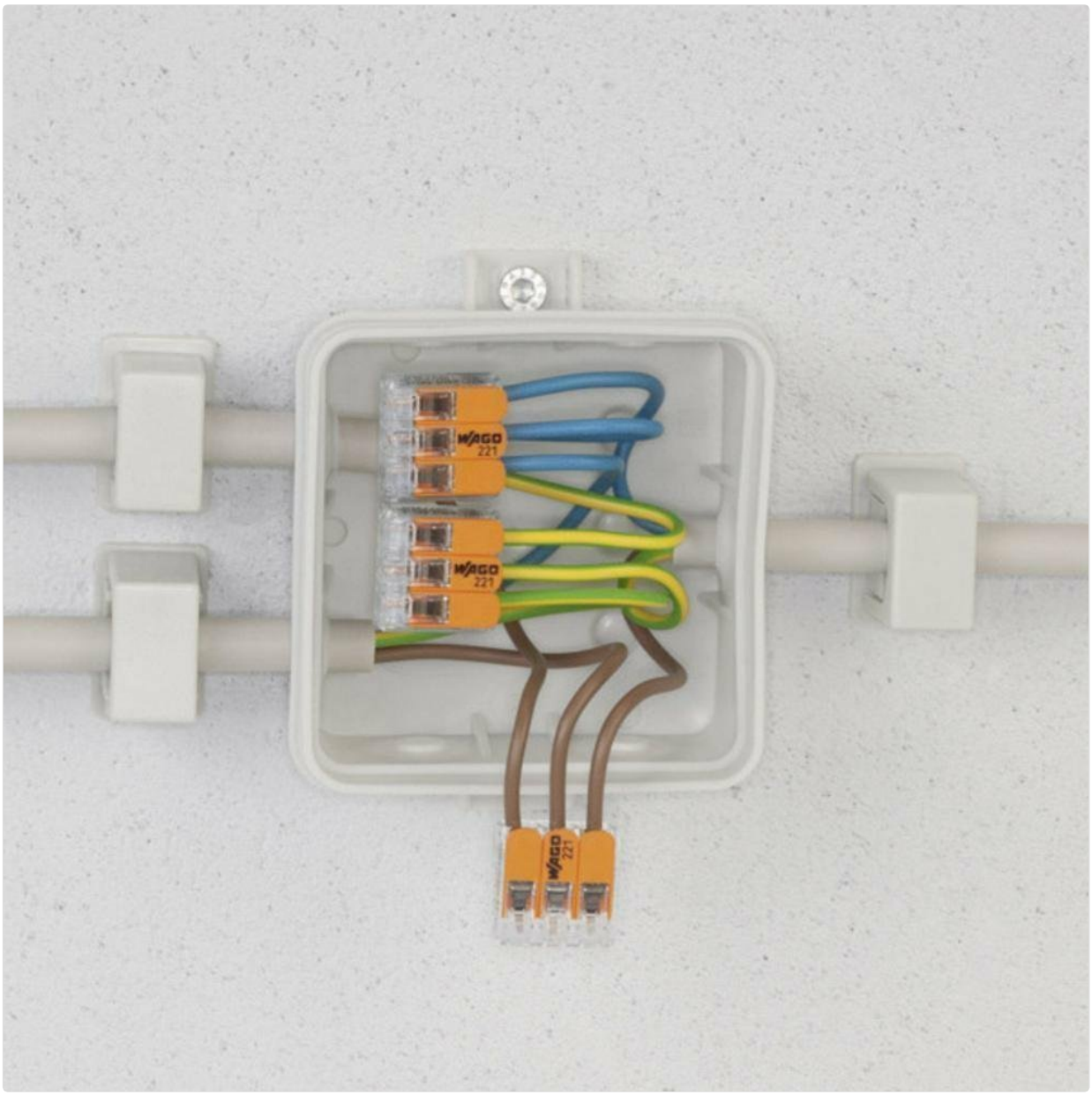

Figure 4: WAGO 221-415 connectors in an electrical junction box. This image displays several WAGO 221-415 connectors organizing various colored wires within a white electrical junction box, highlighting their compact size and neat arrangement.

Installation Video Guide

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Video 1: WAGO 221 Series - Compact Lever Connector. This official video demonstrates the features and installation process of the WAGO 221 Series compact splicing connectors, including wire stripping, lever operation, and conductor insertion.

4. Operating Instructions

The WAGO 221-415 connectors are designed for straightforward operation. Once a conductor is properly inserted and the lever is closed, the connection is secure and ready for use. The transparent housing allows for visual verification of the connection at any time. To disconnect a wire, simply lift the corresponding orange lever, remove the wire, and then close the lever.

5. Maintenance

WAGO 221-415 connectors are maintenance-free once properly installed. Periodically inspect connections for any signs of damage or loose wires, especially in environments with vibration or extreme temperature fluctuations. No

user-serviceable parts are inside the connector.

6. Troubleshooting

- **Loose Connection:** If a wire feels loose, ensure the conductor was stripped to the correct length (11 mm / 0.43 inches) and fully inserted before closing the lever. Re-open the lever, re-insert the wire, and firmly close the lever.
- **Wire Not Inserting:** Check if the lever is fully open. Ensure the wire is not bent or damaged. Verify the wire gauge is within the specified range (0.14-4 mm² fine-stranded, 0.2-4 mm² solid/stranded).
- **No Electrical Continuity:** After installation, use the test slots with a suitable testing device to verify continuity. If there is no continuity, check each connection for proper insertion and lever closure.

7. Specifications

Specification	Value
Model	221-415
Brand	WAGO
Connector Type	Clamp
Number Of Contacts	5
Current Rating	20 Amps
Voltage	600 Volts
Conductor Range (Fine-Stranded)	0.14 - 4 mm² (AWG 28 - 14)
Conductor Range (Solid/Stranded)	0.2 - 4 mm² (AWG 28 - 14)
Strip Length	11 mm / 0.43 inches
Material	Copper (conductors)
Color	Orange (levers)
Upper Temperature Rating	105 Degrees Celsius
Mounting Type	DIN Rail Mount (with appropriate accessories, not included)
Specification Met	UL
Product Dimensions	1"W x 14.57"H (Note: This dimension seems unusually large for a single connector and might refer to packaging or a different product aspect. Please refer to official WAGO documentation for precise single unit dimensions.)
Item Weight	0.01 Ounces (per connector)

Specification	Value
UPC	611359336346

8. Warranty and Support

For warranty information, technical support, or further inquiries regarding your WAGO 221-415 Lever-Nuts Compact Connectors, please visit the official WAGO website or contact their customer service. Product support and resources may also be available through authorized distributors.
You can visit the WAGO Store on Amazon for more products and information: WAGO Store